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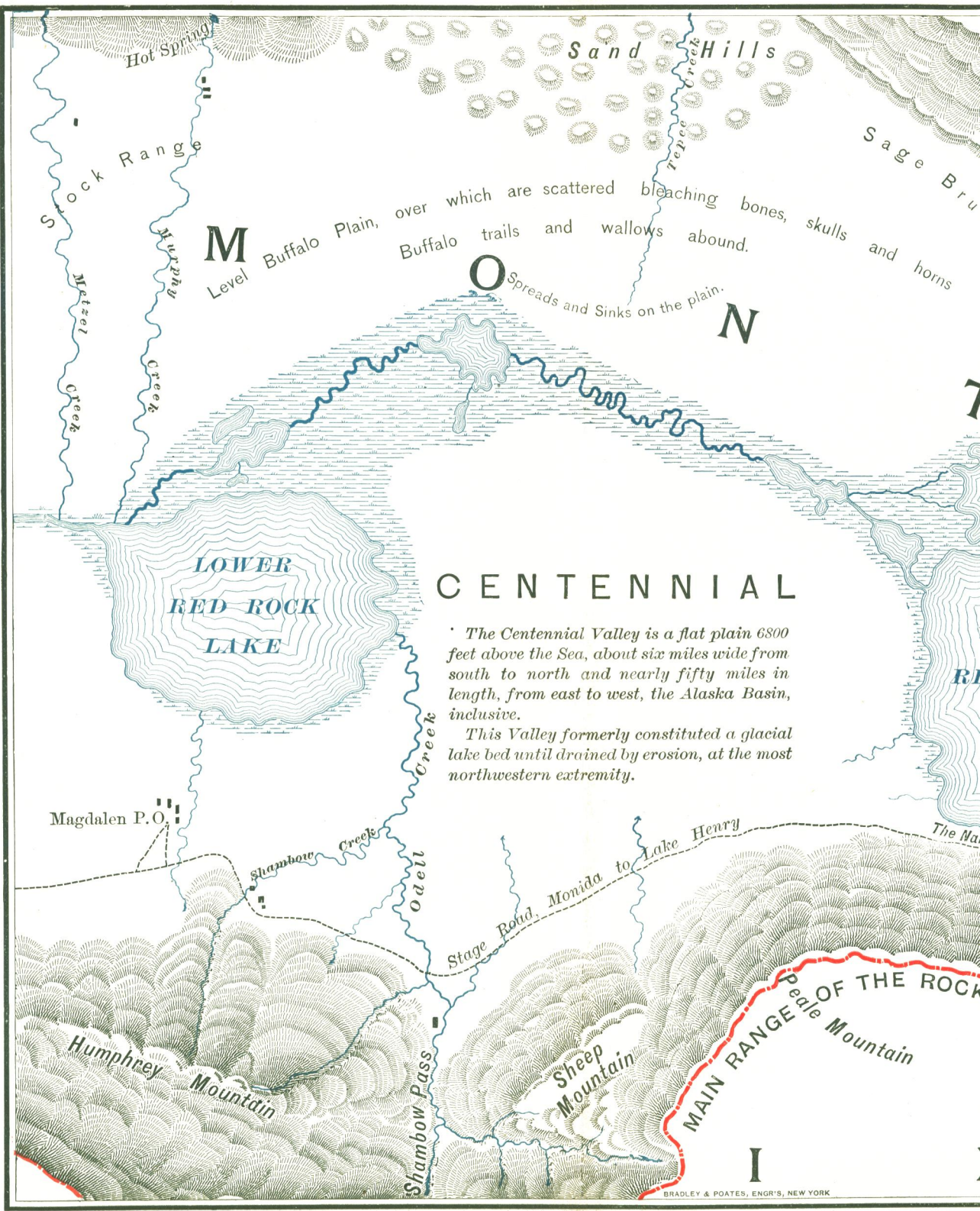
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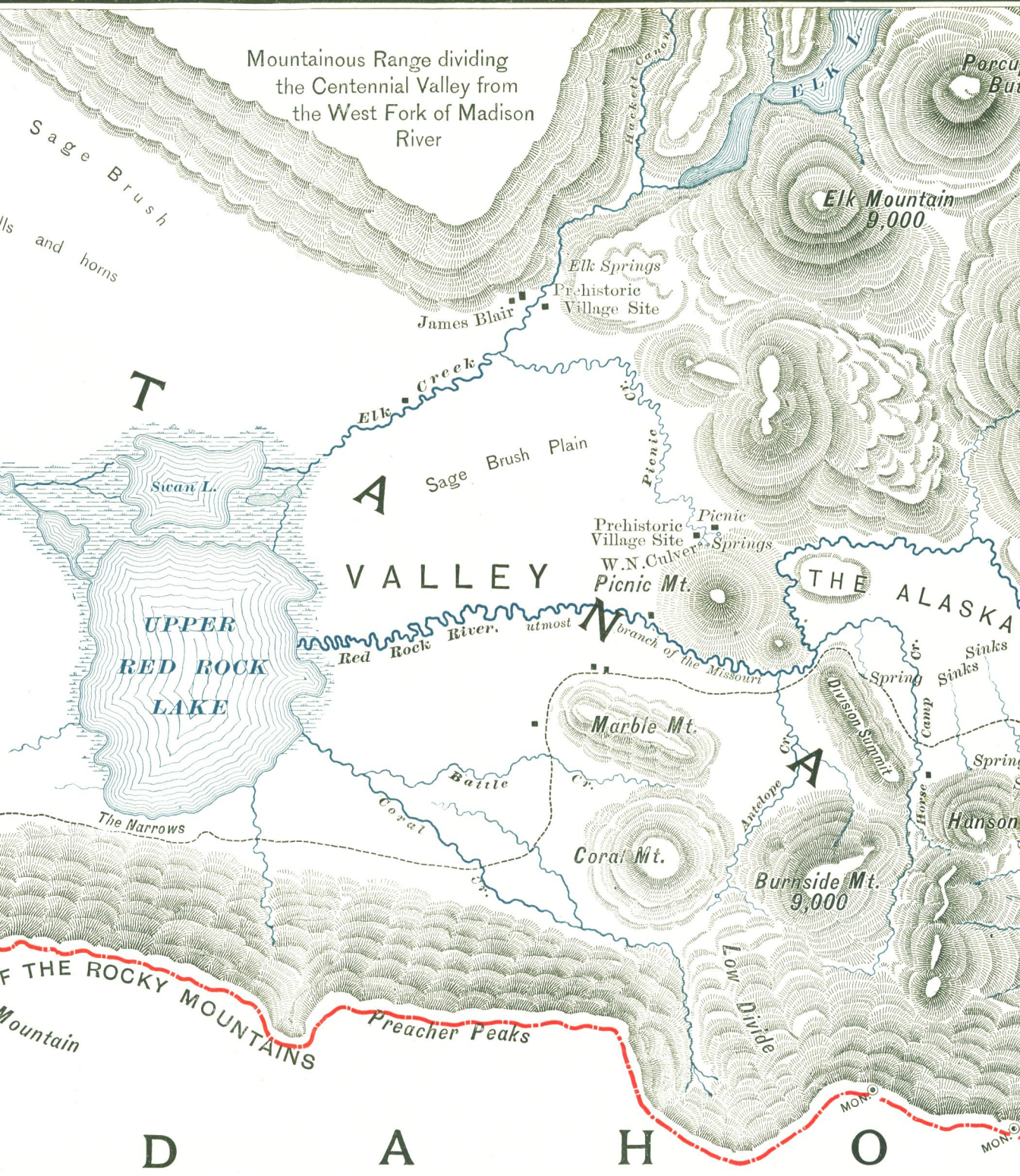
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CENTENNIAL

The Centennial Valley is a flat plain 6800 feet above the Sea, about six miles wide from south to north and nearly fifty miles in length, from east to west, the Alaska Basin, inclusive.

This Valley formerly constituted a glacial lake bed until drained by erosion, at the most northwestern extremity.

I



Mountainous Range dividing
the Centennial Valley from
the West Fork of Madison
River

Sage Brush
and horns

T

A

VALLEY

UPPER
RED ROCK
LAKE

Red Rock River, utmost

Picnic
Prehistoric
Village Site
W.N. Culver
Picnic Mt.

THE ALASKA

Marble Mt.

Coral Mt.

Burnside Mt.
9,000

OF THE ROCKY MOUNTAINS

Preacher Peaks

D

A

H

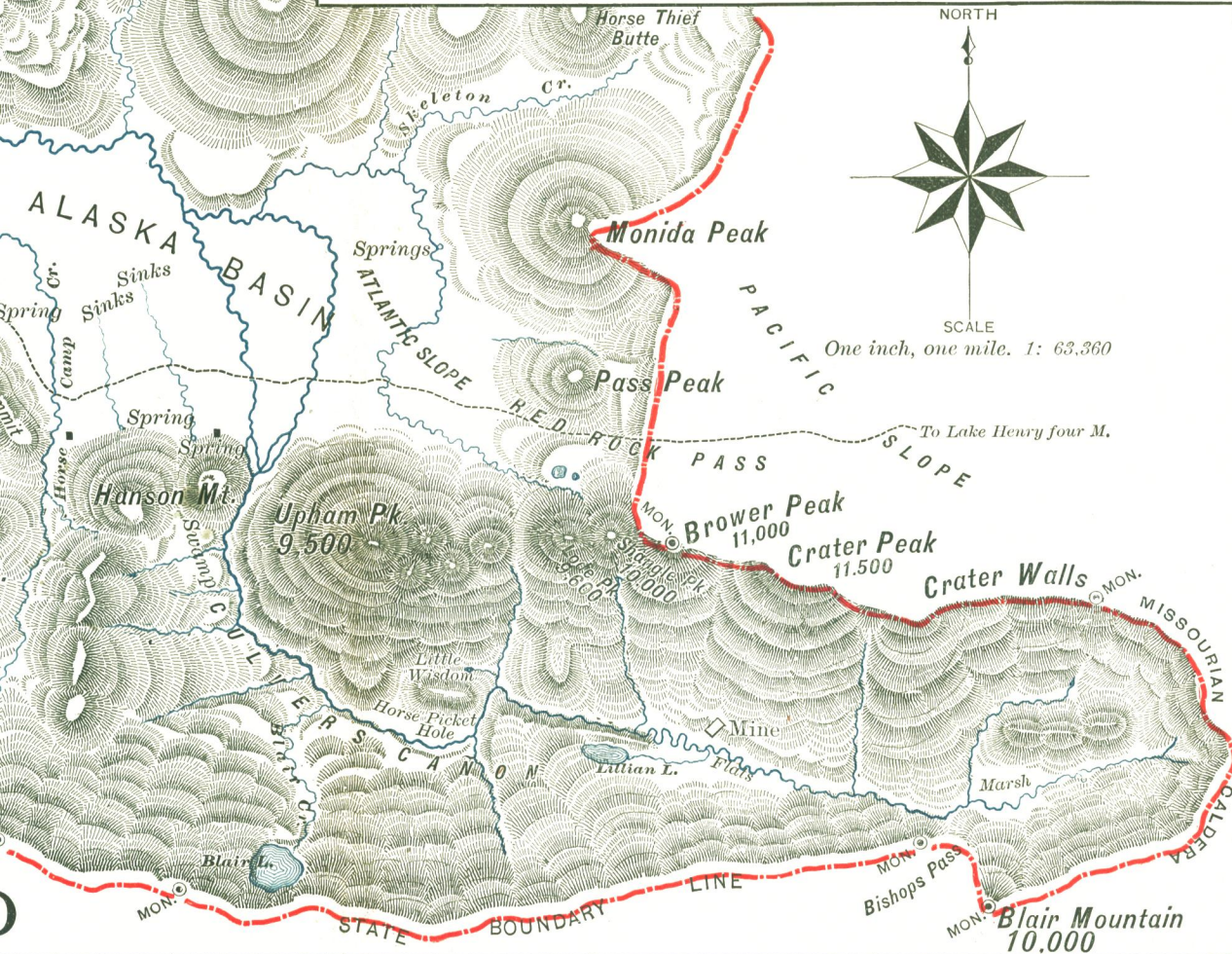
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HYDROGRAPHIC AND TOPOGRAPHIC CHART OF THE UTMOST SOURCE OF THE MISSOURI RIVER

BY
J. V. BROWER
1897.

North Latitude.....	44°35'.	Above Sea Level at Blair Mountain.....	10,000 feet.
West Longitude.....	111°38'.	“ “ “ Crater Peak.....	11,500 “
Distance from Gulf of Mexico.....	4,221 m.	“ “ “ Brower Peak.....	11,000 “
Distance from mouth of Missouri R.....	2945 “	“ “ “ Shangle Peak.....	10,000 “
Crest of Rocky Mountains,		“ “ “ Lode Peak.....	9,600 “
and State Boundary.....		“ “ “ Upham Peak.....	9,500 “
Magnetic Declination.....	15 E.	“ “ “ Burnside Mountain.....	9,000 “
Soundings: Lower Red Rock L. 2, 3, 4 & 6 ft. “		“ “ “ Elk Mountain.....	9,000 “
“ Upper Red Rock L. 10, 15, 20 & 25 “		“ “ “ Culvers Cañon, lowest 7,000 “	
“ Elk Lake, 10, 25, 40, 60 & 80 “		“ “ “ “ “ highest 9,000 “	
Stone Monuments.....	MON. ●	“ “ “ Red Rock Pass.....	7,270 “

Drawn Expressly for the AMERICAN GEOGRAPHICAL SOCIETY.



THE UTMOST WATERS OF THE MISSOURI RIVER.

(WITH CHART.)

At the crest of the Rocky Mountains on the southern border of the State of Montana, where the longest branch of the Missouri River takes its rise, the locality is essentially volcanic in its nature, but the eruptive forces have long since ceased to exist there, leaving crater walls and a serrated crest.

The *caldera*, the formation of which seems to have been super-induced by volcanic action, is double in its nature; one amphitheatrical depression, radiating outward at the upper extremity of Culver's Cañon, being situated in its entirety in the State of Montana, causing a thumb-like projection, as shown on the accompanying chart, while apparently a more modern extinct crater, of formidable extent, is situated across the continental divide immediately to the northward, all of which is within the territorial limits of the State of Idaho, and therefore not shown on the chart; the summits between the two constituting a portion of the continental divide and the State boundary, the crest of the Rocky Mountains.* Melting snows, and a limited rain-fall in the summer season, saturate the rugged and precipitous mountains to such an extent that secancy prevailed centuries ago, when small mountain lakes and cataracts gave place for the escarpments which now characterize the Cañon to its mouth, where Hanson Mountain was long since severed apart from Upham Peak, below which a detrital mass has accumulated out upon the plain at the Alaska Basin, in such quantities that the opposite side of the mesa is a depression, toward which the separated currents flow with constant rapidity, augmented by the addition contributed from several smaller affluents; all uniting in one stream-bed, forming a considerable river as it descends into the Upper Red Rock Lake and thence westward through the Centennial Valley and to the parent river beyond.

The channel distances have been very carefully considered and all authorities available consulted, with the result that the longest continuous unbroken current of running water in the world, taking its rise near the crest of the Rocky Mountains in the upper portion of Culver's Cañon, State of Montana, thence flowing westwardly and northwardly through valleys that formerly constituted glacial

* United States Statutes at Large, 1863-5, XIII, pp. 85-6.

lake beds, the stream, variously designated as Red Rock River, Beaver Head River, and the Jefferson Fork, passes the mouths of the Madison and Gallatin rivers, and flows into the Mississippi above the City of St. Louis.

From the upper end of Culver's Cañon to the southwest pass at the Delta of the Mississippi, along the thread of the channel, the distance is as follows:

Crest of Rocky Mountains to Three Forks.....	398 miles.
Three Forks to confluence with the Mississippi.....	2,547 “
Mouth of the Missouri to Gulf of Mexico.....	1,276 “

Total..... 4,221 miles.

(The channel distance from Nicollets Infant Mississippi above Itasca Lake to the Gulf is 2,553 miles.)

On the 8th day of August, 1872, Professors Frank H. Bradley and W. R. Taggart, members of the Snake River Division of the Geological Survey of the Territories, under F. V. Hayden, ascended to the summit of Sawtell Peak, sometimes called Jefferson Mountain, overlooking the volcanic craters and Culver's Cañon, but they make no mention of the utmost waters of the Missouri, and their cartographer, Mr. Gustavus R. Bechler, omits the stream from his map. They passed no farther to the westward at that point, and since Sawtell Peak stands wholly in Idaho, it is fair to presume that they did not explore Culver's Cañon or ascertain the importance of the stream there situated. On the 27th of August in the same year, Dr. A. C. Peale, Mr. Henry Gannett, Mr. W. H. Holmes and Mr. Joseph Savage explored Red Rock Pass and the upper extremity of the Centennial Valley, as far as Upper Red Rock Lake. Mr. Harry Redfield, in 1891, conducted the planimetric survey for the Government at the Centennial Valley and the Alaska Basin.

No mention is made by either of these gentlemen of the stream in Culver's Cañon or of its geographical importance.

On the 5th and 29th of August, 1895, with Mr. W. N. Culver, the writer explored the principal stream from the Alaska Basin to and up through Culver's Cañon, experiencing great difficulties and hardship in ascending the stream to the *caldera* where it takes its rise. We found no signs of man's presence before us, except an old Indian trail and the site of an old Indian camp near Lillian Lake, where trees had been hacked down in characteristic aboriginal fashion.

Returning to the Centennial Valley in June of the present year, the writer spent many weeks, with the assistance of Messrs. James Blair, William N. Culver and Henry Hackett, in thorough explorations of the entire locality, during which the boundary line between Montana and Idaho was systematically traced along the crest of the mountains, with the peculiar results noted on the accompanying chart.

The gentlemen who aided me are entitled to the credit of making my efforts successful, so far as the same may be considered so.

The reconnoissance which resulted in placing stone monuments on the State line was principally conducted on snow-capped peaks, where several hundred snow-slides had occurred recently, and during the latter part of June of the present year we encountered snow often twenty and thirty feet deep, and the ice in Blair Lake was solid and greenish-blue in color at that time, as witnessed from the rocky peaks overlooking that picturesque and rugged locality.

With the assistance of Mr. Blair and his remarkably trained pack animals, the ascent of Burnside Mountain was accomplished, beyond which we were unable to pass with horses, on account of the tremendous drifts of snow. We established our camp on a summit of ground resembling a very small prairie, picketed our horses, and made all necessary preparations to proceed on foot the next morning from the head of Horse Camp Creek. Here were old signs indicating that buffalo and Indians had been in the habit of crossing Burnside Mountain and the main range, but their trails no longer indicate the activities of the chase.

Leaving our camp early the next morning, we proceeded on foot over the snow and rocky peaks on the State line, establishing landmarks to the summit of Blair Mountain, an immense pile of nature's accumulation, standing one-fourth in Montana and three-fourths in Idaho.

The following week a camp was established above Hanson Mountain in Culver's Canon, from which we again proceeded on foot up the main stream to the *caldera* and across the divide to the volcanic crater walls east of the Crater Peak, often passing dangerous localities, where the plunging waters of the stream were bridged with decaying ice, affording the only necessary passageway on foot. At the summit of the walls on the State line, and overlooking the source of the Missouri below, another stone monument was erected.

From every snow-bank along the course of our exploration—and there were thousands of them—a little streamlet thence proceeded

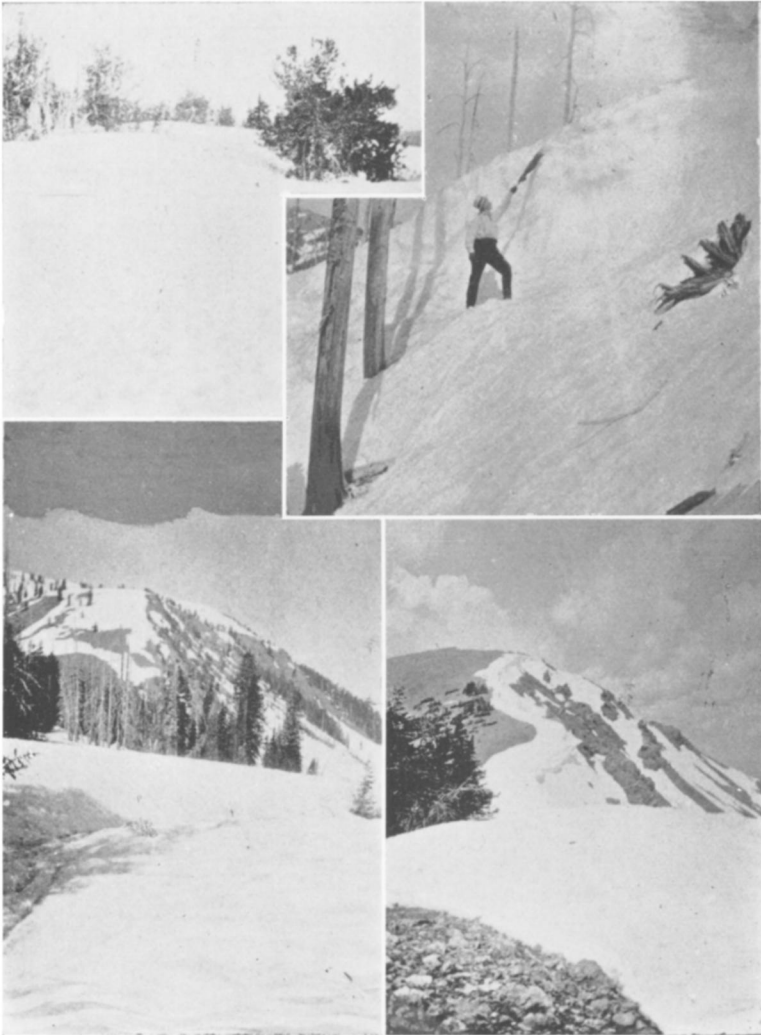
downward, under the rays of a summer's sun, to the lowest depressions of Culver's Cañon, where, uniting, the consequences incident to the birth of a plunging mountain stream were witnessed on every hand. Every declivity and each crevice of the massive mountains gave forth its contribution to the swollen river, over which we effected our crossings with much difficulty. These explorations were continued until every important locality had been examined, and for the purpose of a convenient geographical reference upon the chart, names for several localities have been carefully chosen, with an attempt to appropriately designate characteristic features or historic occurrences, following the similarity of the course adopted at the utmost source of the Mississippi.

GEOGRAPHIC NAMES.

A portion of the names on the chart and their origination are as follows:

Centennial Valley.....	First settler in 1876, the Centennial year.
Alaska Basin.....	Name probably suggested by deep snows.
Red Rock Lakes.....	After a Red Butte in Beaver Head Co., Montana, which constitutes a prominent landmark.
Shambow Pass.....	After a prominent citizen.
Peale Mountain.....	In honor of Dr. A. C. Peale.
Preacher Peaks.....	After an unknown missionary who first ascended them, from necessity, having reached a point from which he could not descend the precipitous range.
Burnside Mountain.....	After Mr. and Mrs. S. B. Burnside, of Monida, Montana.
Hanson Mountain.....	After Mr. Frederick I. Hanson.
Culver's Cañon.....	After Mr. Wm. N. Culver.
Blair Lake and Mountain....	After Mr. James Blair.
Bishops Pass.....	After prospectors, Sept., 1895, when gold was dis- covered in Culver's Cañon.
Lillian Lake.....	After the first lady tourist, Sept., 1895.
Shangle Peak.	After the second lady tourist, July, 1896.
Lode Peak.....	After a discovery of quartz.
Upham Peak.....	After the distinguished gentleman and author, Prof. Warren Upham.
Monida Peak.....	In Montana and Idaho, on the State boundary.
Horse Thief Butte, } Skeleton Creek. }	After a fatal tragedy at that point, when several per- sons were shot.
Horse Camp Creek.....	After an encampment of herders.
Swan Lake.....	A nesting place each year for white swans.
Metzel Creek.....	After Mr. W. O. Metzel, owner of stock range.

A proposition in writing, suggesting that the volcanic formation and the pass at the head of Culver's Cañon, be named in honor of



TREETOPS ABOVE THE SNOW.
AT THE CALDERA, SOURCE OF THE MISSOURI.

A MOUNTAIN SNOWBANK.
ON THE STATE LINE, CRATER WALLS.

SNOW SCENES IN THE ROCKY MOUNTAINS.
JUNE 23rd, 1896.



STONE MONUMENTS, MONTANA STATE LINE.

ERECTED IN JUNE, 1896, BY J. V. BROWER AND JAMES BLAIR, AT THE SUMMITS ABOVE THE UTMOST SOURCE OF THE MISSOURI RIVER, ON THE STATE BOUNDARY BETWEEN MONTANA AND IDAHO.

the writer, was not favorably considered,* and after mature deliberation I have arrived at the conclusion that the proper geographical designation is that the longest headwater branch of the Missouri River takes its rise in Culver's Cañon, Montana, 4,221 miles from the Gulf of Mexico and 8,000 feet above the sea.

J. V. BROWER.

* Messrs. Blair and Culver have designated one of the principal features of the locality "Brower Peak" after the chief of the exploring party, to which there need be no serious objection, as that action does not in any way affect the proper geographical designation of the utmost source of the Missouri.